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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,379	12/04/2003	Harry Contopanagos	BP2110DIV	6971
51472 7590 07/06/2007 GARLICK HARRISON & MARKISON P.O. BOX 160727 AUSTIN, TX 78716-0727			EXAMINER TUGBANG, ANTHONY D	
			ART UNIT 3729	PAPER NUMBER
			MAIL DATE 07/06/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/727,379

Applicant(s)

CONTOPANAGOS ET AL.

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The applicant(s) response file April 9, 2007 has been fully considered and made of record.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Claims 8 through 15 continue to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 5, 2006.

Claim Rejections - 35 USC § 102

4. Claims 1, 4, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujiki 5,497,137.

Fujiki discloses a method (in Fig. 8) for making an on-chip inductor comprising: creating a dielectric layer (e.g. 14c); and creating a conductive winding (e.g. 22) on the dielectric layer, wherein the winding has a substantially square geometry.

Regarding Claim(s) 4 and 6, Fujiki teaches that the geometry of the winding is spiraled such that exterior corners are angled exterior corners. The winding of Fujiki inherently reduces impedance of the on-chip inductor at an operating frequency and inherently reduces current

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turbulence in the corner at the operating frequency to the extent that the shape of the exterior corners and interior corners of the applicant(s) have the exact same shape of the exterior corners and interior corners of Fujiki, by comparison.

Regarding Claim(s) 5, Fujiki further teaches that within the step of creating the conductive winding, creating a first winding (e.g. 22) on a first layer (e.g. 14c), creating a second winding (e.g. 28) on a second layer (e.g. 14d), and connecting the first winding to the second winding with at least one bridge (e.g. 34a, 34b, 34c or 34d).

Claim Rejections - 35 USC § 103

5. Claims 2, 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiki in view of Apel et al 6,407,647.

Fujiki discloses the claimed manufacturing method as relied upon above in Claim 1, further including that the winding includes shaping of the corners such that an interior angle per corner is approximately 90 degrees. Also, the exterior corner angle of Fujiki appears to be approximately 135 degrees.

Regarding Claim(s) 2, Fujiki does not appear to mention the exact angles in degrees.

Regarding Claim(s) 3 and 7, Fujiki does not appear to mention or show that the interior corner angle is 135 degrees, or that the interior corners are angled.

Apel shows that a winding can include an interior angle of approximately 135 degrees and an exterior angle of approximately 135 degrees, for the same purpose of operation in a transformer.

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Regarding Claim(s) 7, since the interior corner is angled in Apel, this would inherently reduce current turbulence in the corner at the operating frequency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the winding geometry shape of Fujiki by including interior and exterior cornered angles, as taught by Apel, to provide the very same function of operating a transformer.

In the event that the applicant(s) believe that neither Fujiki or Apel actually state what angles are specified at the interior corner or the exterior corner of the winding, the specific angles of the interior corner or the exterior corner are each considered to be an effective variable within the level of ordinary skill in the art of manufacturing windings in inductors or transformers. It is noted that the angles at the corners of the windings of Fujiki and Apel are the very same in shape by visual inspection when compared to the applicant(s) winding. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a specific angle of 135 degrees for the interior corner and 135 degrees for the exterior corner, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

6. The applicant(s) arguments filed April 9, 2007 have been fully considered but they are not persuasive.

In regards to the merits of Fujiki, the applicant(s) argue that the winding of Fujiki is not shaped to inherently reduce impedance of the on-chip inductor at an operating frequency.

The examiner most respectfully disagrees. The geometric shape of the winding of Fujiki includes corners that are shaped exactly the same way as the applicant(s). Note the comparison of Fujiki's winding (e.g. 22) in Figure 8 with the applicant(s) winding in Figure 4A. They are exactly the same. Thus, the examiner maintains that Fujiki inherently meets the limitations of "wherein...frequency" (lines 4-5 of Claim 1).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the suggestion, motivation, and expectation of success stems from the very fact that Apel is forming an art recognized equivalent conductive winding and transformer. Therefore, one of ordinary skill in the art would look to Apel to solve the very same problems that Fujiki has being that each is forming conductive windings in a transformer.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570.

The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**/A. Dexter Tugbang/
Primary Examiner
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June 25, 2007